



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

April 15, 1994

Ms. Diane M. Leber
Ciba-Geigy Corporation
444 Saw Mill River Road
Ardsley, NY 10502-2699

Re: CIBA-GEIGY Cranston Site: Phase II Pawtuxet River
Proposal (PRP) - CONDITIONAL APPROVAL

Dear Ms. Leber:

The EPA has completed its review of Ciba-Geigy's revisions to the Phase II Pawtuxet River Proposal (PRP) submitted in October 1993. The Agency has approved the revised PRP under the condition that the following comments are resolved, in the manner indicated, by May 16, 1994. If a comment is to be resolved in the final report, this should be stated in a letter to EPA.

CHAPTER 6 - PHASE II ENVIRONMENTAL ASSESSMENT PROPOSAL

1. Page 6-11 proposes an acute toxicity test to identify the most sensitive species-media pair but there is no discussion on how this will be followed up. Since we are primarily interested in chronic effects, the absence of an observed acute toxic effect does not rule out sublethal effects observed using chronic toxicity tests. Sublethal effects add to a weight-of-evidence regarding community or population assessment endpoints, such as changes in community structure or reduction of effective populations. **This issue must be addressed in the final report.**
2. Page 6-14 proposes to identify "Endangered" species as part of the literature review (Task 2) but should identify "Threatened" species and sensitive habitats as well. Also, the literature review should identify potentially affected species by trophic levels. This comment also applies to the field surveys being conducted in Task 3 and Task 4 and is necessary for developing a food chain or food web. **These issues must be addressed in the final report and in the proposal as amended pages.**



3. Page 6-25 must be revised to define "no significant increase" in the paragraph immediately preceding Riparian Surveys and "significant concern" needs to be defined in the next paragraph. This must be addressed in the proposal as amended page(s).
4. Page 6-8 lists the standards for comparing community indices (EPA comment #17 from 9-10-93) by inserting examples in parentheses (richness, evenness, and diversity). These examples are assessment endpoints, but there is no explanation as to how they will be measured (measurement endpoints). Also, the original comment refers to how these indices will be attributed to site-related contaminants when physical conditions may be confounders. This part of the comment has not been addressed. These issues must be addressed in the final report.
5. Page 6-8 does not fully address EPA comment #18 from 9-10-93. Specific indices have been included but the remaining request for elaboration on the specific indices has not been addressed, and is important to focusing the assessment. This must be addressed in the final report.
6. Page 6-25 does not address EPA comment #34 from 9-10-93 on animal analysis for site related chemicals. If analysis is not going to be conducted, then the river proposal must explain how the study will address the resulting uncertainty. This must be addressed in the proposal as amended page(s).
7. Page 6-28 appears to have addressed EPA comment #35 from 9-10-93 but there is no discussion of migratory birds in the assessment and there are plans to conduct just winter and summer observations. There needs to be a determination of the migratory value of the site and identification of known seasonal transients. Site breeders, or only those endemic to the site, should not be the only concern. Species may inhabit adjacent areas and use the site for foraging only. If this is to be eliminated then a rationale should be provided that addresses reproduction and the viability of the population not the length of exposure. This must be addressed in the final report.
8. Pages 6-31 & 32 do not fully address EPA comment #39 from 9-10-93. Assessment endpoints should be differentiated from measurement endpoints. Assessment endpoints have been identified, but the proposed measurement endpoints remain unstated. This assessment will have little value without specifically connecting a measurement to the endpoint. This must be addressed in the proposal as amended page(s).

9. Page 6-32 should clarify what "this" refers to in the sentence "Very few data exist for evaluations such as this, especially ... specific basis". Also, what "data" will be used to "evaluate certain community and population endpoints"? This must be addressed in the proposal as amended page(s).
10. Page 6-33 does not adequately address EPA comment #40 from 9-10-93. "Upstream" has not been adequately defined and remains unspecific. A rationale for why a "reference" area is appropriate should be provided. Once data is in hand, an evaluation should be conducted since the data may not support the chosen area. More thought needs to be given to how reference stations will be located or determined to be appropriate. Also, any uncertainty should be identified and the "etc" in the parentheses needs explanation. The first part of this comment must be addressed in the final report. The last sentence of this comment must be addressed in the proposal as amended page(s).
11. Page 6-33 does not adequately address EPA comment #44 from 9-10-93. The section titled Uncertainty Analysis is still incomplete. There are uncertainties inherent in sampling, analysis (especially detection limits), and field surveys, just to name a few. As stated in the original comment, each task of the assessment will have uncertainties. The final report should include a balanced presentation of uncertainties, those that potentially result in underestimates as well as overestimates of ecological effects or risk. This must be addressed in the proposal as amended page(s) and included in the final report.

APPENDIX E - PHASE II MODELING OF THE PAWTUXET RIVER

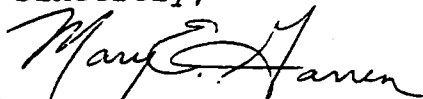
12. Page E-23 does not state which model input parameters will be varied for the sensitivity analysis. Will assumptions and simplifications also be varied? Once the model sensitivity has been evaluated, how will this be used to "identify the level of precision required in the assignment of model parameter values? These questions must be addressed in the proposal as amended page(s).

APPENDIX F - BASIS FOR PHASE II RELEASE CHARACTERIZATION... REACH

13. Page F-1 states in the section titled Biological Considerations that "The Pawtuxet River does not provide such a substrate and benthic biota below the surficial sediments are not expected to be common near the site". This argument should be expanded and there should be a discussion on what will be done if benthic biota are found below the surficial sediments near the site. This must be addressed in the proposal as amended page(s) and explained in the final report.

As can be seen, some comments may be addressed in more than one way. If you have any questions on the format for responding to these comments, please contact Frank Battaglia at (617) 573-9643.

Sincerely,



for Gary Gosbee, Chief
MA & RI Waste Regulation Section

cc: Mark Houlday, Woodward-Clyde Consultants

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CONCURRENCES

SYMBOL	HAR	HAR						
SIGNATURE	<i>[Signature]</i>	<i>[Signature]</i>						
DATE	4-15-94	4-15-94						